

Remarks

Claims 41, 46-48, 54, 61-63, 66, 67, 69, 70, 76-79, and 86-95 are pending in the subject application. Applicant gratefully acknowledges the Examiner's indication that claim 70 is allowed. By this Amendment, Applicant has canceled claims 41, 46-48, 54, 61-63, 66, 67, 69, 76-78, and 86-95, and amended claim 79. Applicant respectfully submits that the amendments presented herein are directed either to cancellation of claims or to correction of minor formalities in the claims that will require no further search on the part of the Examiner. Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 70 and 79 are currently before the Examiner. Favorable consideration of the pending claims is respectfully requested.

Applicant gratefully acknowledges the Examiner's withdrawal of the rejection under 35 USC §102(b) over Feinberg *et al.* (U.S. Patent No. 5,395,825), the rejection under 35 USC §102(b) over Wieczorek *et al.*, 1995, and the double patenting rejections over U.S. Patent No. 6,683,156 and U.S. Patent No. 6,294,662.

Claim 79 is objected to because of informalities. Applicant gratefully acknowledges the Examiner's careful review of the claims. In accordance with the Examiner's suggestion, Applicant has deleted the colon in the middle of the sentence in claim 79. Applicant notes that claim 79 is not included under any of the other substantive rejections. Accordingly, reconsideration and withdrawal of the objection and allowance of claim 79 is respectfully requested.

Claims 41, 54, and 61 are rejected for "obviousness type" double patenting over claims 1-3 and 8 of U.S. Patent No. 5,916,751. Applicant respectfully asserts that the claims are not obvious over the cited patent. However, Applicant has canceled claims 41, 54, and 61. Accordingly, this rejection is now moot. Reconsideration and withdrawal of the rejection is requested.

Claims 41, 46-48, 54, 61-63, 78, and 86-95 are rejected under 35 USC §112, first paragraph, as lacking adequate written description. The Examiner asserts that the subject specification does not provide adequate written support for a genus of nucleic acid that encodes any human ebaf protein, or variants or homologs thereof, other than the nucleic acid sequence of SEQ ID NO:1. Applicant respectfully maintains that the subject specification does provide adequate written description for the genus of human ebaf protein and polynucleotides encoding the same. Applicant notes that the claims refer only to human ebaf proteins and not to ebaf proteins of other animals. The amino acid

sequence of ebaf protein, and the sequence of the gene encoding it, were known in the art at the time of filing the subject application. Because the genetic code is known, once the amino acid sequence of a protein is known, then all possible nucleotide sequences encoding that protein are also known. Thus, a person of ordinary skill in the art would be aware of the sequence at the time of the present invention and, therefore, would understand that the Applicant was in possession of the claimed invention. However, by this Amendment, Applicant has canceled claims 41, 46-48, 54, 61-63, 78, and 86-95, thereby rendering the rejection of those claims moot. Accordingly, reconsideration and withdrawal of the rejections under 35 USC §112, first paragraph, is respectfully requested.

Claims 66 and 69 are rejected under 35 USC §102(a) as anticipated by Meno *et al.* (1996). In addition, claim 67 is rejected under 35 USC §103(a) as obvious over Meno *et al.* and claims 76-78 are rejected under 35 USC §103(a) as obvious over Meno *et al.* and further in view of Foster *et al.* (U.S. Patent No. 4,444,879). The Examiner asserts that the Meno *et al.* reference teaches antibodies and antisera that would specifically bind to a peptide consisting of the amino acid sequence shown in SEQ ID NO: 3. Applicant respectfully asserts that the cited references do not teach or suggest the claimed invention. Epitopes of protein antigens are based, in part, upon the three-dimensional structure of the antigen. A single amino acid change, such as an amino acid addition, can change the three-dimensional structure of a protein. Thus, unless the antigen used to generate the antibodies in the Meno *et al.* reference was exactly the same as that of the SEQ ID NO: 3 peptide, then an ordinarily skilled artisan cannot have a reasonable expectation that any antibodies generated using a peptide or protein consisting of or comprising the SEQ ID NO: 3 sequence as an immunogen would bind to a peptide consisting of the amino acid sequence in SEQ ID NO: 3. The Examiner indicates that the Meno *et al.* reference teaches antibodies produced to a peptide that includes the amino acid sequences ASDGAL and PRRLQ which are shared by the peptide sequence of SEQ ID NO: 3. The Meno *et al.* reference does not teach exactly the peptide of SEQ ID NO: 3, nor does the Meno *et al.* reference teach immunization with such a peptide. The different amino acids in SEQ ID NO: 3 versus the protein used in the Meno *et al.* reference could easily result in different three-dimensional structures and different epitopes such that antibodies produced to one would not cross-react with the other and *vice versa*. However, by this Amendment, Applicant has canceled claims 66, 67, 69, and

76-78, thereby rendering the rejections of those claims moot. Accordingly, reconsideration and withdrawal of the rejections under 35 USC §102(a) and 35 USC §103(a) is respectfully requested.

It should be understood that the amendments presented herein have been made solely to expedite prosecution of the subject application to completion and should not be construed as an indication of Applicant's agreement with or acquiescence in the Examiner's position.

In view of the foregoing remarks and amendments to the claims, Applicant believes that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

Applicant invites the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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